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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/691,054	10/19/2000	Jin Pil Kim	8736.045.00	5362

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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

RAMAN, USHA

ART UNIT

PAPER NUMBER

2623

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/691,054	Applicant(s) KIM, JIN PIL	
	Examiner Usha Raman	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed May 8th, 2006 have been fully considered but they are not persuasive. Applicant argues that "ATSC A/65 standard does not specifically disclose an identifier indicating whether contents of the table has shifted or changed". The examiner respectfully disagrees. When a field in the EIT is changed, table_type_version number in the MGT is updated to flag the change so that the decoder detects this change and reloads the table. See page 71. The A/65 standard therefore provides means for indicating to the receiver whether or not contents of the EIT are changed. As a result, the examiner maintains rejection.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material (such as data structures) falls within any of the four categories of patentable subject matter set forth in § 101. Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change

in the computer. Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. See *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). In this case, claim 1 recites characteristics of a "master guide table" of the signal, thereby reciting physical characteristics of a form of energy and further reciting the structural elements of the master guide table, thereby reciting a data structure.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-8, and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by the "Program and System Information Protocol for Terrestrial Broadcast and Cable" (henceforth referred to as *A/65*) published on 23rd December 1997 by the ATSC.

In regards to claim 1, the *A/65* document discloses a master guide table for digital broadcast protocol comprising:

a version number for each event information table (version_number in the EIT, see pages 31-32) transmitted in a transport stream of the digital broadcast (see page 68). When a field in the EIT is changed, the version_number of the EIT is

incremented and is therefore different from a version number for a previously transmitted EIT. See page 31, under "version_number".

a second identifier (table_type, identifying the table iterated in the first for loop of the MGT, see page 16-18), distinct from the version number, the second identifier comprising identification information (table_type_version_number) indicating whether contents of an event information table in a bit stream syntax are shifted (i.e. no change in table_type_version number of table type EIT-k) or changed (change in table_type_version_number of table type EIT-k). See page 71.

In regards to claim 2, as discussed above for claim 1, the A/65 master guide table further comprises a version number (table_type_version_number) and a PID (table_type_PID) for each table, including the event information table which are defined in a PSIP for a digital broadcast. See pages 16-18.

In regards to claims 3, 8, and 11, the master guide table further comprises at least one field reserved for identification information, where the identification information indicates by allocating at least one bit of the reserved field (i.e. the table_type_version_number for table_type EIT-k), whether contents of the event information table are shifted in time or changed. See pages 16-18 of the A/65 document.

In regards to claim 4, the reserved field indicating version number of the table type (table_type_version_number) is situated in a for_loop statement in the master guide table bit stream syntax. See page 16.

In regards to claims 6 and 13, the A/65 document teaches the steps of, at a transmitting side: preparing a present event information table comprising contents pertaining to a broadcast information table; preparing a master guide table for the digital broadcast protocol, the table comprising a version number for the present event information table (version_number in the EIT, see pages 31-32) wherein, when a field in the EIT is changed, the version_number of the EIT is incremented by 1 modulo 32 and is therefore different from a version number for a previously transmitted EIT (see page 31, under "version_number"), and a second identifier, distinct from the first version number (table_type, identifying the table iterated in the first for_loop of the MGT, see page 16-18), the second identifier comprising identification information (i.e. the table_type_version_number of table defined by table_type) for indicating whether the contents of the present event information table in a bit stream syntax are shifted in time (i.e. no change in version number) or changed (change in version number, see, pages 12, 70, 71); transmitting the master guide table and the present information table to a receiving side (the decoder); receiving at the receiver, the master guide table and event information table, parsing the master guide table, retrieving a version number for the event information table from the parsed master guide table, and selectively updating (i.e. by reloading the tables at the receiver only on a version update and not on a time shift) a database having parsed contents of a previous event information table with the parsed contents of the present event information table in accordance with the parsed identification information.

In regards to claims 7 and 14, the A/65 document teaches the selective updating step by not updating the database at the receiver when the parsed information indicates that the present event information is shifted in time (by indicating no change in the version number) and updating the database at the receiver (by reloading the tables) when the parsed information indicates that the present information table is changed (by indicating the change in the version number). See page 71.

In regards to claim 10, the A/65 document teaches the step of preparing at least one EIT based on the present time using event information; allocating a PID and a version number for each EIT (see page 71) and including the identification information (table_type_version_number) in the bit stream of the MGT (see page 16); and transmitting the MGT to the receiving party after multiplexing the MGT with audio transport bit and a video transport bit stream (see page 80).

In regards to claim 12, the A/65 document discloses that the EIT contains information for events for each channel. The information includes event title, start time, program duration (i.e. end time relative to the start time), and a pointer to the ETM that further contains the event captions and descriptions. See pages 30, and 32-33. Applicant also notes in page 3, under "Background Invention" that the EIT has event information including title, start time, end time, and caption.

In regards to claim 15, since the version number is provided as the identification number, the version number being represented as an unsigned integer (see pages 31 and 71), the retrieval of the version number comprises the step of

reading the value of the unsigned integer, thereby reading the bits assigned in a field reserved for the identification information in the MGT.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Program and System Information Protocol for Terrestrial Broadcast and Cable" (henceforth referred to as A/65) published on 23rd December 1997 by the ATSC.

In regards to claims 5, 9, and 16, ATSC A/65 documents discloses that a version number for the EIT is changed only when there is an update in the content (i.e. there is no change in version number when a time shift occurs). This change in version number is flagged by an increase in the version number, which is represented in an unsigned integer format. The A/65 document therefore does not disclose flagging the content updates by changing a bit to '1' and keeping the bit at '0' for indicating only time shifts. Examiner takes Official Notice that a flag can be represented using one or more bits (see Microsoft Press', Computer Dictionary, 3rd edition, page 198) to indicate the occurrence of an event. Furthermore, it is also well known that a one-bit 'flag' is Boolean variable, where true is represented by a logic value '1' (in this case, content update is true) and a false is represented by a logic value of '0' (when content update is false). By using a one-bit flag, content update

can be communicated by using only one bit. thus reducing the transmission overhead (that would incur when transmitting an unsigned integer). Therefore, it would have been obvious to one of ordinary skill in the art to modify the protocol in A/65, to replace the version number for each of the PID list associated with the EITs, with a one bit flag, where the flag value '0' represents no change in content during the time shift and the flag value '1' represents an actual change in content, in order to reduce the transmission overhead.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usha Raman whose telephone number is (571) 272-7380. The examiner can normally be reached on Mon-Fri: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600